MYIASIS IN AN AMAZONIAN PORCUPINE[1]

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ABSTRACT: Myiasis in an Amazonian porcupine, *Coendou prehensilis prehensilis* (Linnaeus), is reported for the first time. The authors found a mature female procupine in the Amazon National Park near Uruá, Pará, Brazil. The subject was heavily infested with the primary screwworm, *Cochliomyia hominivorax* (Coquerel) and *Sarcophaga* sp. Although the nose and nasal cavities were the most affected tissues, there was also infestation below the scalp as well as ocular involvement.

While participating in the faunistic survey of the Amazon National Park, Tapajós, Brazil on December 15, 1978, the authors encountered an adult female porcupine, *Coendou prehensilis prehensilis* (Linnaeus) (Rodentia:Erethizontidae) in secondary growth at the edge of primary forest just south of Uruá, Pará (Km 65 Trans-Amazon Highway). The animal was aware of our presence but made no attempt to escape. Upon closer examination, the subject was apparently partially blind and suffering from an advanced case of nasal myiasis and maggots were observed exiting from the nose and scalp. The porcupine was then killed and the affected areas were examined at close range and dissected. Externally, most of the tissue of the rostrum had been eaten away, one eye was destroyed and the cornea of the other eye was opaque. There were four openings in the scalp and the skull was clearly visible. The affected areas had a strong smell of rotten meat. The entire nasal cavity was infested with muscoid maggots of various sizes. These were collected from the tissues and as they exited the nares and placed in 70% alcohol for future determination. Additionally, the scalp was undermined by maggots almost as far as the occiput.

Two species of flies were removed from the porcupine: third instars of the primary screwworm, *Cochliomyia hominivorax* (Coquerel) (Calliphoridae) and variously aged instars of *Sarcophaga* sp. (Sarcophagidae). The screwworm was probably the first of the two species to infest the porcupine. *C. hominivorax* requires a surface wound in order to gain access (Hall, 1974) or in the case of nasal myiasis, a pre-existing pathological condition of the nose (Taylor, 1950). The secondary invader, *Sarcophaga* sp., may have been attracted due to the fetid nature of the wound. The various sizes of *Sarcophaga* sp. in the tissues indicated that larviposition was by more than one female and over a few days.

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Several families of Calyptrate muscoid flies cause myiasis in a variety of vertebrate hosts. The Cuterebridae, Gastereophilidae and Oestridae are obligatory larval parasites of mammals and the majority of the species are host specific (Zumpt, 1973). Although *C. hominivorax* and *Wohlfahrtia* spp. (Sarcophagidae) are obligate parasites, most cases of myiasis caused by other calliphorids and sarcophagids are facultative or accidental. *Sarcophaga* spp. are found in a multitude of niches ranging from scavenging to parasitism of warm-blooded animals (Aldrich, 1916) including facultative parasitism of man (James, 1947). *C. hominivorax* attacks a wide range of mammalian hosts including domestic and sylvatic animals (Lindquist, 1937; McLean, 1941; Murray and Thompson, 1976; cited by Snow, 1980) as well as man (Aubertin and Buxton, 1934; James, 1947; Scott, 1964) and death due to untreated advanced cases is common. A significant portion of the cases recorded in man involve invasion of the nasal cavities (Brown, 1945).

Although several sylvatic hosts are recorded for the primary screwworm, this is the first report of *C. hominivorax* and *Sarcophaga* in *Coendou*.

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REFERENCES

Aldrich, J.M. 1916. *Sarcophaga and Allies*. Thomas Say Found. 301 pp., 16 plates.

Aubertin, D. and P.A. Buxton. 1934. *Cochliomyia* and myiasis in tropical America. Ann. Trop. Med. Parasitol. 28:245-255.

Brown, E.H. 1945. Screwworm infestation in the nasal passages and paranasal sinuses. Laryngoscope 55:371-374.

Hall, D.G. 1947. *The Blowflies of North America*. Thomas Say Found. 477 pp.

James, M.T. 1947. The flies that cause myiasis in man. U.S. Dept. Agric., ARS, misc. pub. 631:175 pp.

Lindquist, A.W. 1937. Myiasis in wild animals in southwestern Texas. J. Econ. Entomol. 30:735-740.

McLean, D.D. 1941. The screw-worm fly. Calif. Conservationist 6:11, 20-21.

Murray, V.I.E. and K. Thompson. 1976. Myiasis in man and other animals in Trinidad and Tobago (1972-73). Trop. Ag. 53:263-266.

Scott, H.G. 1964. Human myiasis in North America (1952-1962 inclusive). Fla. Entomol. 47:255-261.

Snow, J.W. 1980. An annotated bibliography on the screwworm *Cochliomyia hominivorax*. USDA, SEA-AR, South. Reg. Res. Report.

Taylor, H.M. 1950. Screwworm (*Cochliomyia americana*) infestation in man. Ann. Otol. Rhinol. Laryngol. 59:531-540.

Zumpt., F. 1973. Diptera parasitic on vertebrates in Africa south of the Sahara and in South America, and their medical significance. In *"Tropical Forest Ecosystems in Africa and South America: A Comparative Review."* B.J. Meggers, E.S. Ayensu and W.D. Duckworth, eds. Smithsonian Institution Press. 350 pp.